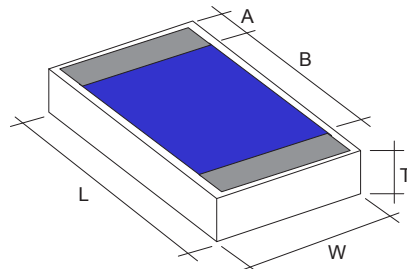


High Voltage Chip Resistors / Low Noise Chip Resistors HVC Series



High Voltage Chip Resistors HVC Series combine proprietary Fine Line Thick Film Technology and design to achieve a new level of high voltage ratings and stability in SMD chip resistors. NR New Resistance technology features a longer, high aspect ratio trace of lower resistivity film compared to traditional thick film chip resistors.

Compared to standard chip resistors NR New Resistance HVC Series provides unmatched performances and design efficiency resulting in lower voltage coefficients and temperature coefficients, lower noise, tighter tolerances, higher stability, higher resistance values and higher voltage ratings. Wire bondable gold terminations and custom configurations available.

Model-Size	Wattage @ 70°C	Max. Continuous Oper. Voltage	Dimensions in millimeters [Dimensions in inches]				
			L	W	T (max.)	A	B (min.)
0603	0.10	600	1.60 ± 0.20 [0.063 ± 0.008]	0.80 ± 0.10 [0.031 ± 0.004]	0.50 [0.020]	0.25 ± 0.10 [0.010 ± 0.004]	0.80 [0.032]
1206	0.30	1'500	3.25 ± 0.20 [0.128 ± 0.008]	1.60 ± 0.20 [0.063 ± 0.008]	0.70 [0.028]	0.45 ± 0.20 [0.018 ± 0.008]	1.95 [0.077]
2010	0.50	2'200	5.10 ± 0.20 [0.200 ± 0.008]	2.50 ± 0.20 [0.098 ± 0.008]	0.80 [0.032]	0.55 ± 0.20 [0.022 ± 0.008]	3.70 [0.146]
2512	1.00	3'000	6.40 ± 0.20 [0.252 ± 0.008]	3.20 ± 0.20 [0.126 ± 0.008]	0.80 [0.032]	0.65 ± 0.20 [0.026 ± 0.008]	5.00 [0.200]
5020	2.00	5'000	12.70 ± 0.20 [0.500 ± 0.008]	5.08 ± 0.20 [0.200 ± 0.008]	0.80 [0.032]	2.00 ± 0.30 [0.079 ± 0.012]	8.00 [0.315]

Characteristics

Resistance Values	from 1KΩ to as high as 100GΩ on all models (to 1TΩ on request)		
Tolerances	0.05%, 0.1%, 0.25%, 0.5%, 1%, 2%, 5%, 10%, 20% (0.05% available to 10G, 0.25% to 100G on request)		
Temperature Coefficients	5, 10, 15, 25, 50 and 100 ppm/°C (10 ppm/°C available to 10G, 25 ppm/°C to 100G on request)		
Operating Temperature	-55 ... + 200°C	(extended temperature range to 350°C available)	
Insulation Resistance	> 10'000 MΩ	500 Volt 25 °C 75% relative humidity	
Dielectric Strength	> 1'000 Volt	25 °C 75% relative humidity	
Thermal Shock	Δ R/R < 0.1% typ., 0.50% max.	MIL Std. 202, method 107 Cond. C	IEC 68 - 2 -14
Overload	Δ R/R < 0.1% typ., 0.50% max.	1,5 x Pnom, 5 sec (do not exceed max. voltage)	
Moisture Resistance	Δ R/R < 0.1% typ., 0.50% max.	MIL Std. 202, method 106	IEC 68 - 2 - 3
Load Life	Δ R/R < 0.1% typ., 0.50% max.	1000 hours at rated power	IEC 115 - 1
Encapsulation	Screen Printed Silicone	Core Material	Al ₂ O ₃ (96%)
Solder Pads Material	Silver (PdAg) / Bondable Gold / Tinned	Resistor Material	Ruthenium Oxide

Voltage Coefficients of Resistance

Type	Resistance Range	VCR (- ppm/V)*	Type	Resistance Range	VCR (- ppm/V)*
0603	1K .. 3M	< 16.00	2512	1K .. 30M	< 0.80
	3M .. 30M	< 80.00		30M .. 300M	< 4.00
	30M .. 300M	< 150.00		300M .. 3G	< 7.00
1206	1K .. 10M	< 3.20	5020	1K .. 40M	< 0.40
	10M .. 100M	< 15.00		40M .. 400M	< 2.00
	100M .. 1G	< 29.00		400M .. 4G	< 3.60
2010	1K .. 20M	< 1.30	*Typical values. Voltage coefficient of resistance strongly depends on the resistance value, consult factory for details.		
	20M .. 200M	< 6.00			
	200M .. 2G	< 12.00			

Derating Curve

